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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/778,479	02/07/2001	Philipp H. Schmid	M61.12-0337	4705

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EXAMINER
SHORTLEDGE, THOMAS E

ART UNIT	PAPER NUMBER
2654	

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
	09/778,479	SCHMID ET AL.
Office Action Summary	Examiner	Art Unit	
	Thomas E. Shortledge	2654	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _24 January 2005_.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-13 and 21-26_ is/are pending in the application.

    4a) Of the above claim(s) _14-20_ is/are withdrawn from consideration.

5)☒ Claim(s) _21-26_ is/are allowed.

6)☒ Claim(s) _1-6 and 11_ is/are rejected.

7)☒ Claim(s) _7-10, 12-13_ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _07 February 2001_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

U.S. Patent and Trademark Office

PTOL-326 (Rev. 1-04)   Office Action Summary   Part of Paper No./Mail Date 06222005

DETAILED ACTION

1.   This communication is in response to Remarks filed 01/24/2005.

2.   Claims 1-13 and 21-26 are pending in the application. Claims 1, 11, and 21 are

independent claims.

3.   Claims 14-20 have been canceled without traverse.

Response to Arguments

4.   Applicant's arguments with respect to claim 1-6, and 11 have been considered

but are moot in view of the new ground(s) of rejection.

5.   Applicant's arguments, see Remarks, filed 1/24/2005, with respect to claims 7 -

10, 12-13 and claims 21-26 have been fully considered and are persuasive. The

rejection of claims 7-10, 12-13 and 21-26 has been withdrawn.

Allowable Subject Matter

6.   Claims 21-26 are allowed.

The following is a statement of reasons for the indication of allowable subject

matter: Claim 21 recites a string of words containing words in the speech grammer, and

a set of fixed size transition entries, each transition entry representing a transition in a

structure that describes the speech grammar and each transition entry having a same

fixed size ass all other transition entries in the set of transition entries, at least one

transition entry making reference to a word in the string of words.

The prior art of record teaches a speech grammar containing a string of words,

with states and transition entries between each word. However, the prior art of record

fails to teach or fairly suggest each transition entry having a same fixed size as all other

transition entries in the set of transition entries.

7.   Claims 7-10, 12-13 are objected to as being dependent upon a rejected base

claim, but would be allowable if rewritten in independent form including all of the

limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject

matter:

Claim 7 recites at least one transition entry includes an index to a rule entry that

represents a group of transitions. The prior art of record does not teach nor fairly

suggest a transition entry that includes an index to a rule entry.

Claim 12 recites the data structure further comprises a symbol string formed of a

sequence of symbols and wherein each semantic entry comprises a name offset that

provides an offset to a symbol in the symbol string, the symbol identified by the offset

representing a semantic tag. The prior art of record does not teach nor fairly suggest a

name offset that provides an offset to a symbol in the symbol string, the symbol

identified by the offset representing a semantic tag.

Claims 8-10, 13, and 22-26 would be allowable since the further limit indicated

allowable subject matter.

Claim Rejections - 35 USC § 103

8.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

9.   Claims 1-5, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Chung et al. (6,278,973).

As to claims 1 and 11, Chung et al. teach:

a computer readable medium providing a computer-loadable data structure,

representing a state-and-transition-based description of a speech grammar (a read-only

memory for storing software performing the operations of a speech recognition system,

including a grammar, col. 3 lines 42-44, 57, and col. 4, line 1);

the data structure further comprises a set of semantic entries, each semantic

entry representing semantic information associated with a transition in the grammar,

(the arcs within the grammar contains the phonetic structure of the input string, col. 4,

lines 32-35).

a first transition entry (group of arcs) representing a transition from a first state

(fig. 1, element 120 shows a group of arcs, representing a transition between states);

a second transition entry representing a second transition from the first state, the

second transition entry being contiguous with the first transition entry, (fig. 1, element

120 shows a second transition entry representing, where the second transition is based

on the first transition).

Chung et al. do not explicitly teach having a last-transition value set to indicate

that the second transition is the last transition from the first state. However it would

have been obvious to one of ordinary skill in the art at the time of the invention that

since Chung et al. teaches states connected by a plurality of arcs, that when the last arc

between two states has been reached, the last arc would be indicated by methods well

known in the art such as setting flag or a value. By realizing that the last arc has been

reached, the language model process would be able to move onto the next step.

As to claim 2, Chung et al. teach each transition entry has a fixed size (fig. 1,

element 120, show a transition entry representing the forms of is, necessarily creating a

transition entry of a fixed size).

As to claim 3, Chung et al. teach the data structure further comprises a word string comprising words found in the speech grammar (fig. 1, element 120 show a represent of a word string which could be "is his data correct" or a different word string path)

As to claim 4, Chung et al. teach each transition entry has a content index value that designates content associated with the transition (requesting a state and its outgoing transitions, where a memory is search to find the corresponding information for the state and the wanted transition, (col. 10, lines 12-23). It would be necessary that since a memory is searched to find transition information, the transition would have an index value indicating how to search the memory.

As to claim 5, Chung et al. teach at least one transition entry has a content index value that is an index into the word string (a state and its transitions are requested, and their corresponding information is searched for by a context-dependency composer in a memory, (col. 10, lines 12-18). It would be necessary that since a context-dependency composer is based on the context of the input word string, the state and transitions search would as well be dependent on the word string.

10.   Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chung et al. in view of Woods (Transition Network Grammars for Natural Language Analysis).

As to claim 6, Chung et al. do not teach rule entries, with each rule entry

representing a group of transitions.

However, Woods teaches rules which representing the branches of a

characterization tree, (page 600, col. 1).

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention to combine the state transition representation of a grammar described

by Chung et al. with the rules of Woods to improve the ability for the model to represent

natural language grammars, as taught by Woods, (page, 591, col. 1).

Conclusion

11.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. See PTO-892.

12.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Thomas E. Shortledge whose telephone number is

(571)272-7612. The examiner can normally be reached on M-F 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Richemond Dorvil can be reached on (571)272-7602. The fax phone

number for the organization where this application or proceeding is assigned is 703-

872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

TS
6/22/05

VIJAY CHAWAN
PRIMARY EXAMINER